

App. No. 10/027,749  
Amtd. Dated November 6, 2003  
Reply to Office Action of August 13, 2003

## AMENDMENTS TO THE SPECIFICATION

**Please replace paragraph [0001] with the following:**

[0001] This application is related to co-pending application serial number \_\_\_\_\_, 10/025,528, filed December 1918, 2001 (~~Attorney Docket No. 1391-26800~~) titled “Acoustic Logging Apparatus And Method” and is a continuation of application serial number \_\_\_\_\_10/025,157, filed December 19, 2001 (~~Attorney Docket No. 1391-27200~~), titled “Acoustic Logging Apparatus and Method for Anisotropic Earth Formations.”

**Please replace paragraph [0033] with the following:**

[0033] The value of the objective function created for each assumed transfer function and starting time is preferably plotted in a graph as a function of the starting time and the slowness of assumed transfer function. As shown in Figure 4, the starting time of the source signal estimations,  $T_1$ ,  $T_2 \dots T_n$ , are preferably the Z axis coordinate (assumed strike angle is the ordinate or X axis (not shown in Figure 4), as is discussed more below) and the slowness is preferably the abscissa or Y axis. Thus, for example, the value of the objective function calculated using portions of decomposed signals  $R_1 - R_4$  within rectangular time slice 50 is plotted at point 60 in Figure 4. Likewise, the value of the objective function associated with the assumed slowness implied by rectangular time slice 52 is plotted at point 62, and the value of the objective function associated with the rectangular time slice 54 is shown at point 64. Thus, for each of a plurality of starting times, and for each starting time a plurality of slowness values associated with assumed transfer functions, a graph of the objective function is created. In the preferred embodiments, the value of the objective function is indicated by a color, with cooler colors (blues, purples) showing more similarity, and hotter colors (reds, oranges) showing less similarity of the estimated source signals or source wavelets. The color schemes however are only exemplary and other schemes may be

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used without departing from the scope and spirit of the invention. ~~Copending application Serial No.~~ ~~(Atty. Deckel 1391 26800)~~ titled, "Acoustic Logging Apparatus and Method", ~~incorporated by reference herein as if reproduced in full below, describes related methods.~~